

# Whole-body MRI compared with standard pathways for staging metastatic disease in lung and colorectal cancer: the Streamline diagnostic accuracy studies

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**Disclaimer:** This report contains transcripts of interviews conducted in the course of the research and contains language that may offend some readers.

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## Plain English summary

### The Streamline diagnostic accuracy studies

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## Plain English summary

Colorectal and lung cancer are the leading causes of cancer-related deaths in the UK. Optimal treatment depends on accurately defining (or 'staging') the extent of disease, particularly if it has spread to other parts of the body such as the liver. Current staging pathways are complex and rely on a variety of tests that use X-rays, such as computed tomography and positron emission tomography-computed tomography scans. Patients often undergo multiple tests before starting treatment. Alternatively, it is possible to scan the whole body using magnetic resonance imaging without X-rays, and this may be more accurate and reduce the time and number of tests needed before treatment can start. We compared the ability to detect cancer spread, efficiency, patient experience and cost-effectiveness of staging based on whole-body magnetic resonance imaging with the standard NHS pathways in participants newly diagnosed with either lung (187 participants) or colorectal (299 participants) cancer. We found that the whole-body magnetic resonance imaging pathway was as accurate as standard staging pathways and resulted in very similar treatment decisions made by the clinical teams. The whole-body magnetic resonance imaging pathway detected 67% and 50% of participants with cancer spread in colorectal and lung cancer, respectively, compared with 63% and 54%, respectively, for standard staging. However, staging was quicker using whole-body magnetic resonance imaging (by 5 days for colorectal cancer and 6 days for lung cancer) and needed on average one less test to stage colorectal cancer. The whole-body magnetic resonance imaging pathway was also cheaper (costing on average £216 and £317 for colorectal and lung cancer, respectively, compared with £285 and £620, respectively, for standard pathways). Participants generally found whole-body magnetic resonance imaging more burdensome than standard imaging but most preferred the whole-body magnetic resonance imaging pathway if it reduced the time to staging and/or the number of tests. Agreement between different radiology doctors interpreting the same whole-body magnetic resonance imaging scan was moderate for colon cancer and low for lung cancer, emphasising the need for training.



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